



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,257	12/20/2001	Tomofumi Watanabe	10449-041001	8985

7590 06/30/2005

FRANK R. OCCHIUTI  
Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110-2804

EXAMINER

HUBER, PAUL W

ART UNIT	PAPER NUMBER
----------	--------------

2653

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/027,257	Applicant(s) WATANABE ET AL.	
	Examiner Paul Huber	Art Unit 2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,10-12,17 and 21 is/are rejected.
- 7) ☒ Claim(s) 2-5,7-9,13-16 and 18-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 2653

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

**A person shall be entitled to a patent unless –**

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al. (USP-5,182,741).

Regarding claim 1, Maeda et al. discloses, with reference to figures 12-14, a data recording device for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV). A laser condition varying unit (12, 13, 33) changes a peak value of the laser pulse in accordance with a value relating to a linear velocity of the optical disc 1 at a position at which the laser pulse is irradiated. See col. 10, line 55, through col. 11, line 8.

Regarding claim 12, Maeda et al. discloses, with reference to figures 12-14, a data recording control device for controlling recording of data on an optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV), wherein data is recorded by irradiating a laser pulse on the optical disc. A spiral pregroove for recording disc information is formed on the optical disc 1. See col. 6, lines 25-38 and figure 2. A detection circuit (11, 12) reproduces the disc information of the pregroove and detects a value relating to a linear velocity of the optical disc at a position at which the laser pulse is irradiated in accordance with the reproduced disc information. See col. 7, line 33, through col. 8, line 14. A strategy specifying circuit 33 connected to the detection circuit (11, 12) specifies a peak value of the laser pulse in accordance with the detected value. See col. 10, line 55, through col. 11, line 8. See also, disclosure in reference to figure 14. A laser drive circuit 33 connected to the strategy specifying circuit (e.g., figure 14) alters the peak value of the laser pulse to the specified peak value.

Claims 6 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshimaru (USP-4,984,227).

Regarding claim 6, Yoshimaru discloses a data recording device, in reference to figure 1, for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc 1 while controlling rotation of the optical disc at a constant angular velocity (CAV). A laser condition varying unit 15 generates a clock using a value relating to a linear

Art Unit: 2653

velocity of the optical disc 1 at a position at which the laser pulse is irradiated and for altering at least one of the pulse timing and a pulse width of the laser pulse based on the clock.

Regarding claim 11, Yoshimaru discloses a data recording device, in reference to figure 1, for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc while controlling rotation of the optical disc 1 at a constant angular velocity. A storage device 16 stores a specifying value specifying at least one of a pulse timing and a pulse width of the laser pulse, wherein the specifying value is set in accordance with a linear velocity of the optical disc at a position at which the laser pulse is irradiated. A control unit 15 reads the specifying value stored in the storage device 16 and sequence controlling at least one of the pulse timing and the pulse width of the laser pulse based on the read specifying value.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6, 10, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda et al., as applied to the claims above, in further view of Yoshimaru (USP-4,984,227).

Regarding claims 6 & 10, Maeda et al. discloses, with reference to figures 12-14, a data recording device for recording data on an optical disc 1 by irradiating a laser pulse on the optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV). A laser condition varying unit (12, 13, 33) changes a peak value of the laser pulse in accordance with a value relating to a linear velocity of the optical disc 1 at a position at which the laser pulse is irradiated. See col. 10, line 55, through col. 11, line 8. Maeda et al. further discloses that the laser condition varying unit (12, 13, 33) generates a clock (clock generating circuit 13) using a value relating to a linear

Art Unit: 2653

velocity of the optical disc 1 at a position at which the laser pulse is irradiated and for altering at least one of a pulse timing and a pulse width of a recording pulse based on the clock. See col. 11, lines 22-36.

Regarding claims 17 & 21, Maeda et al. discloses, with reference to figures 12-14, a data recording control device for controlling recording of data on an optical disc 1 while controlling rotation of the optical disc 1 at a constant angular velocity (CAV), wherein data is recorded by irradiating a laser pulse on the optical disc. A spiral pregroove for recording disc information is formed on the optical disc 1. See col. 6, lines 25-38 and figure 2. A detection circuit (11, 12) reproduces the disc information of the pregroove and detects a value relating to a linear velocity of the optical disc at a position at which the laser pulse is irradiated in accordance with the reproduced disc information. See col. 7, line 33, through col. 8, line 14. A clock generating circuit 13 connected to the detection circuit (11, 12) generates a clock using a value relating to the linear velocity of the optical disc 1 at the position at which the laser pulse is irradiated in accordance with the detected value. A strategy specifying circuit (33; 13, see for example figures 7 or 8) connected to the detection circuit (11, 12) specifies a peak value of the laser pulse in accordance with the detected value. See col. 10, line 55, through col. 11, line 8. See also, disclosure in reference to figure 14. A laser drive circuit 33 connected to the strategy specifying circuit (e.g., figure 14) alters the peak value of the laser pulse to the specified peak value. The strategy specifying circuit connected to the detection circuit (11, 12) further specifies at least one of a pulse width and a pulse timing of the laser pulse in accordance with the detected value. See also, col. 11, lines 22-36. A magnetic coil drive circuit 8 connected to the strategy specifying circuit alters the at least one of the pulse width and the pulse timing of the laser pulse to the specified at least one of the pulse timing and the pulse width of the laser pulse based on the clock.

Maeda et al. discloses the invention as claimed, but fails to specifically teach that a laser drive circuit is connected to the laser condition varying circuit or the strategy specifying circuit for altering the at least one of the pulse width and the pulse timing of the laser pulse to the specified at least one of the pulse timing and the pulse width of the laser pulse based on the clock. Rather, as illustrated with reference to figure 12, the pulse width of the recording data is altered by controlling the magnetic coil drive circuit 8 and not the laser drive circuit of the optical head 5. However, Maeda et al. further teaches that in the "embodiments, the descriptions are given with respect to the magneto-optical disk 1 as an optical disk; however, besides such application, the present invention is applicable to optical disks of re-writable type such as those of so-called phase-change type or to those of DRAW type capable of recording only once" (col. 11, lines 51-57), which systems do not include a magnetic coil driver for recording data. In addition, Yoshimaru discloses an optical recording device (see figure 1) which alters a recording timing of the laser pulse according to a detected recording position of the laser beam on the optical disc, in the same field of endeavor,

Art Unit: 2653

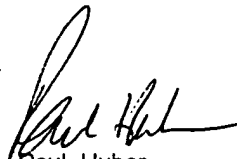
for the purpose of recording the data at a constant linear density while the optical disc is rotated at a constant angular velocity.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Maeda et al. such that the laser drive circuit, and not the magnetic coil drive circuit, is connected to the laser condition varying circuit or the strategy specifying circuit for altering the at least one of the pulse width and the pulse timing of the laser pulse to the specified at least one of the pulse timing and the pulse width of the laser pulse based on the clock, as claimed and as taught by Yoshimaru. A practitioner in the art would have been motivated to do this for the purpose of applying the taught advantages of the Maeda et al. invention to the systems of recording optical disks of re-writable type such as those of so-called phase-change type or to those of DRAW type capable of recording only once, as suggested by Maeda et al., which systems do not include a magnetic coil driver for recording data.

Claims 2-5, 7-9, 13-16 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication should be directed to Paul Huber at telephone number 571-272-7588.



Paul Huber  
Primary Examiner  
Art Unit 2653

pwh  
June 27, 2005